



Third West Weekly Report Shepherd, Michael to:

Joyce Ackerman, 'Craig Barnitz (cbamitz@utah.gov)'

10/19/2011 10:25 AM

Hide Details

From: "Shepherd, Michael" < Michael. Shepherd@PacifiCorp.com>

To: Joyce Ackerman/R8/USEPA/US@EPA, "'Craig Bamitz (cbamitz@utah.gov)" <cbamitz@utah.gov>

7 Attachments











Weekly Reports 10-10 to 10-14.pdf Third West Weekly Log 2011-41.pdf 2222621-1.pdf 222298-1.pdf 222360-1.pdf





222518-1.pdf 222520-1.pdf

Joyce & Craig,

Attached are the reports for the week of October 10, 2011.

All air monitoring results came back negative.

One question for you, we have been monitoring at four points around the exclusion zone plus two more points around the non-exclusion zone perimeter, six total each day. We also have been monitoring on the weekends for a few weeks now. Thus far we have only seen three isolated chrysotile hits. We discussed at the conception of this project that once we establish a base of air monitor results that are favorable that we could reduce the number of air monitors to four points around the site perimeter and stop monitoring on the weekends. I would like to start this approach this week. Please let me know if you not okay with this change or if you have any other concerns.

Sincerely,

Mike Shepherd
Project Manager
Rocky Mountain Power - Major Projects
801.220.4584 Office
801.631.1310 Cell
801.220.2797 Fax
michael.shepherd@pacificorp.com



October 17, 2011

Laboratory Code:

RES

Subcontract Number: Laboratory Report:

NA RES 222520-1

Project # / P.O. #

None Given

Project Description:

Rocky Mtn. Power 3rd

West Sub Station

David Roskelley R & R Environmental 47 West 9000 South #2 Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 222520-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely.

Jeanne Spencer Orr

President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:

RES 222520-1

Client:

R & R Environmental

Client Project Number / P.O.: None Given

Client Project Description:

Rocky Mtn. Power 3rd West Sub Station

Date Samples Received:

October 14, 2011

Analysis Type:

TEM, AHERA

Turnaround:

24 Hour

Date Samples Analyzed:

October 14, 2011

Client ID Number	Lab ID N	umber	Area Analyzed	Air Volume Sampled	Number of Asbestos Structures Detected	Analytical Sensitivity	Asbestos Concentration	Filter Loading
			(mm²)	(L)		(s/cc)	(s/cc)	(s/mm²)
3W-101211-E	EM	810494	0.1100	1050	ND	0.0033	BAS	BAS
3W-101211-S	EM	810495	0.1100	1062	ND	0.0033	BAS	BAS
3W-101211-N	EM	810496	0.1100	1042	ND	0.0034	BAS	BAS
3W-101211-W	ЕМ	810497	0.1100	1054	ND	0.0033	BAS	BAS

NA = Not Analyzed

Filter Material = Mixed Cellulose Ester

ND = None Detected

Filter Diameter = 25 mm

BAS = Below Analytical Sensitivity Average Grid Opening in mm² = 0.011 Effective Filter Area = 385 sq mm

DATA QA



3rd West Substation Site Project Safety Audit

Project: 3 rd West Sub Station Location: 3 rd West, 1 st South, SLC		Date: <u>10/10/11</u> Job Number:					
		In Compliance	Out of Compliance	N/A	Corrective Action Taken and		
Standard	Title				Date		
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			x			
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.		-	х			
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	x					
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			х			
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toeboards shall be installed.			х			
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x					

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Da te
1926.652 (a)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			х	
1926.20 (b)	Employer responsibility to initiate and maintain safety and health programs.	x			
1926.20 (b)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			x	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toeboards.			x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	D ebris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			x	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.			x	
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			x	
1926.403 (b)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.			x	

Standard	<i>Titl</i> e	☐ In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
1926.451 (a)	Scaffolding shall have guardrails and toeboards when more than 10 feet high and when less than 45 inches of work space.			x	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			x	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	х			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			x.	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			x	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.			x	
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.			х	
1926.102 (a) (1)	Eye and face protection shall be provided.	x			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.			x	
1926.350 (a) (9)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.			х	

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.		,	Х	
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.		_	х	
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			х	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.			x	
1926.451 (a) (2)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.			x	
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			x	
1926.404 (f)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	х			
1926.556 (b)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.			x	
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			x	

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.	·		x	
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	x			
1926.451 (a)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.			х	
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			x	

Comments:

No exclusion zone work today.

Newman brings in loads of fill material throughout the day.

CVE working on re-bar framework for concrete forms.





3RD WEST SUBSTATION REMEDIATION PROJECT

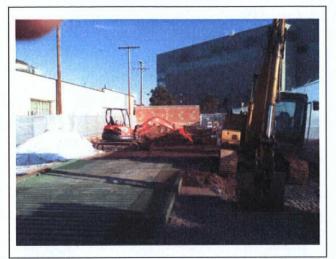
HEALTH SAFETY MANAGER (HSM)

	DAILY CHECKLIST
DATE:	10/10/11
General	
	Work area Health and Safety Inspection
NA	Review and if necessary update Activity Hazard Analyses (AHA) based on planned site
IVA	activities for the day
·NA	Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
NA	Site hazard and safety instruction for all first time employees, contractors or visitors
NA	Complete Employee Meeting Record Form B (where applicable
NA	Document required Respirator Training completion with Form H
Ø	Record times and numbers of dump trucks and trailers as they leave the site with contaminated material.
NA NA NA	Confirm retum of waste material manifest documents for each load with site manager. Complete all CSHASP Forms (for applicable activities planned for that day) Illness/Injury Report Form A
NA	Site-Specific Training Record Form C
NA	Hot Work Permit Form D
NA	Trench/Evacuation Permit Form E
_ NA	Combined Space Entry Permit From F
I	Exclusion zone operations are practiced as instructed.
	Decontamination unit is working properly.
	Workers are using decontamination unit as instructed.
	Workers use personal protective equipment properly.
	Set air samples at cardinal compass points around exclusion zone. Check throughout the day to ensure proper operation.
\square	Observe control measures for dust and fugitive materials i.e. watering excavation sites and
_	track out prevention.
	Review sign-in/sign-out log throughout and at the end of the workday.
\square	Secure the site at the end of the workday
<u>Sampling</u>	
NA	Soil Confirmation sampling for any newly excavated areas
	Stationary Air Monitoring during contaminated soil removal around the perimeter of the
	exclusions zone
NA	Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil removal
NA	Digitally photograph each sample location and at any place field sampling personnel determined necessary
TAT A	Electronically file photo files into the on site database

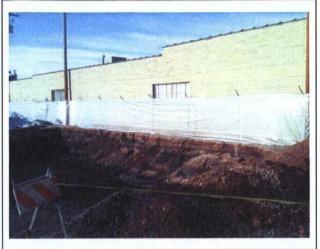




\square	Complete Field Documentation
\square	Field Sample Data Sheets (FSDS)
\square	Logbook
NA	On-site computer database
\square	Label each sample media with a unique number
\square	Seal sample(s) in zip lock plastic bags
Ø	Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
Ø	Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
Ø	Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees
Ø	Electronically file sample reports into on-site database



РНОТО 1



РНОТО 2



РНОТО 3

R & REnvironmental, Inc.

47 West 9000 South, Suite #2, Sandy, Utah 84070 (801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:

SCALE:

REVIEWED BY:

DCR

DRAWN BY:

JMK

PILE:

FILE:

SITE PHOTOGRAPHS



3rd West Substation "2011 Upgrade Project" Salt Lake City, Utah



3rd West Substation Site Project Safety Audit

Project: 3rd West Sub Station Location: 3rd West, 1st South, SLC Survey Conducted By: lustin Kargis		Date: 10/11/11						
			Job Number:					
			Title:					
		In Compliance	Out of Compliance	N/A	Corrective Action Taken and			
Standard	Title				D a te			
1926.59	Hazard Communication P rogram, List of Chemicals, Training, MSDSs.			x				
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			x				
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	x						
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			x				
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toeboards shall be installed.			х				
	Head protection where there is a possible	Ļ			·			

1926.100 (a)

danger of head injury.

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title Title		□ ,		Date
1926.652 (a)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			х	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.	x			
1926.20 (b)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.		1	x	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toeboards.			x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			х	
1926.25 (a)	D ebris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			x	·
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.			x	
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	·
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			x	
1926.403 (b)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.			x	-

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	<i>Titl</i> e				Date
1926.451 (a)	Scaffolding shall have guardrails and toeboards when more than 10 feet high and when less than 45 inches of work space.		·	х	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.	`		x .	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	x			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			x ·	·
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			x	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	-		x	
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.			x	
1926.102 (a) (1)	Eye and face protection shall be provided.	x		.,	
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.			x	
1926.350 (a) (9)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.		,	х	

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	Tital.] In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title		Ш	Ш	Date
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			Х	
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.			, X	
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			х	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.			х	
1926.451 (a)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.			x	·
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			x	
1926.404 (f) (7)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transforrher or the tool is double insulated.	x			,
1926.556 (b)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.			х	
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			x	

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.451 (a)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.		<i>:</i>	x	
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	x			
1926.451 (a)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.			х	
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			х	•

Comments:

Newman uses poly to encapsulate the west and north banks of excavation in EZ. Covered other contaminated surfaces with 8-12 inches of imported clean fill.

Exclusion zone lifted approximately 11:00

Newman begins to back fill zone 1 excavation to bring up to grade. Continue to deliver clean fill material.

CVE continues to place building materials and construct framework for concrete.





3^{RH} WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

	DAILY CHECKLIST
DATE:	10/11/11
General	
	Work area Health and Safety Inspection
NA	Review and if necessary update Activity Hazard Analyses (AHA) based on planned site
147	activities for the day
NA	Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
NA	Site hazard and safety instruction for all first time employees, contractors or visitors
NA	Complete Employee Meeting Record Form B (where applicable
NA Docui	ment required Respirator Training completion with Form H
Ø	Record times and numbers of dump trucks and trailers as they leave the site with contaminated material.
NA NA	Confirm return of waste material manifest documents for each load with site manager. Complete all CSHASP Forms (for applicable activities planned for that day)
NA	Illness/Injury Report Form A
NA	Site-Specific Training Record Form C
NA	Hot Work Permit Form D
NA	Trench/Evacuation Permit Form E
ŇA	Combined Space Entry Permit From F
Ø	Exclusion zone operations are practiced as instructed.
☑	Decontamination unit is working properly.
ಠ	Workers are using decontamination unit as instructed.
	Workers use personal protective equipment properly.
\square	Set air samples at cardinal compass points around exclusion zone. Check throughout the day to ensure proper operation.
Ø	Observe control measures for dust and fugitive materials i.e. watering excavation sites and track out prevention.
\square	Review sign-in/sign-out log throughout and at the end of the workday.
	Secure the site at the end of the workday
<u>Samplin</u>	3
NA	Soil Confirmation sampling for any newly excavated areas
Ø	Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusions zone
NA	Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil removal
NA	Digitally photograph each sample location and at any place field sampling personnel determined necessary
NΔ	Flectronically file photo files into the on-site database





Complete Field Documentation \square Field Sample Data Sheets (FSDS) Logbook NA On-site computer database \square Label each sample media with a unique number \square Seal sample(s) in zip lock plastic bags \square Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory \square Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples NA Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees NA Electronically file sample reports into on-site database



3rd West Substation Site Project Safety Audit

Project: 3rd West Sub Station			Date: 10/12/11				
Location:	3rd West, 1st South, SLC	Job Number:					
Survey Cond	ucted By: <u>Justin Kargis</u>	Title:					
		In Compliance	Out of Compliance	N/A	Corrective Action Taken and		
Standard	Title				Date		
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			x .			
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			x			
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	x	,	}			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.		_	x			
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toeboards shall be installed.			x			
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x					

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title .			□	Date
1926.652 (a)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			х	·
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.	x			
1926.20 (b)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			x	k
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toeboards.			х	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	D ebris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			х	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.			х	-
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			x	
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.			х	

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		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title Title			!	Date
1926.451 (a)	Scaffolding shall have guardrails and toeboards when more than 10 feet high and when less than 45 inches of work space.			х	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.		-	х	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	x	÷		
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			х	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			x	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.			x	
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.			х	
1926.102 (a) (1)	Eye and face protection shall be provided.	х	į		
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.			х	
1926.350 (a)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.			х	

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Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			X	
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.			x	
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			х	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.			x	,
1926.451 (a)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.			х	
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			x	
1926.404 (f)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	х			
1926.556 (b) (2)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.			X	
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			х	

		In Compliance	Out of Compliance	N/A	Correct <i>iv</i> e Action Taken and
Standard	<i>T</i> itle				Date
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.			x	
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	x			
1926.451 (a)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.			x	
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			x	

Comments:

9:00 bi-weekly team meeting:

- discussed exclusion zone breaches, how support zone can help workers in EZ with compliance measures such as gate control, visibility from outside on 1st south.

<u>12:00 - Met with Scott Collard to check zone 1 and discuss encapsulation and soil retention.</u>

Newman continued with backfill in zone 1.



determined necessary



3^{RR} WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

		DAILY CHECKLIST
DATE	: <u> </u>	10/12/11
Ge	neral	
<u> </u>	ilci ai	Work area Health and Safety Inspection
NA		Review and if necessary update Activity Hazard Analyses (AHA) based on planned site
147	1	activities for the day
NA		Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior
142	1	to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
NA		Site hazard and safety instruction for all first time employees, contractors or visitors
NA		Complete Employee Meeting Record Form B (where applicable
		nent required Respirator Training completion with Form H
NA		Record times and numbers of dump trucks and trailers as they leave the site with
147	1	contaminated material.
N A	Confir	m return of waste material manifest documents for each load with site
	manag	
NA		Complete all CSHASP Forms (for applicable activities planned for that day)
142	NA	Illness/Injury Report Form A
	NA	Site-Specific Training Record Form C
	NA	Hot Work Permit Form D
	NA	Trench/Evacuation Permit Form E
	NA	Combined Space Entry Permit From F
☑	1 17 1	Exclusion zone operations are practiced as instructed.
_		Decontamination unit is working properly.
		Workers are using decontamination unit as instructed.
	☑	Workers use personal protective equipment properly.
		workers use personal protective equipment property.
abla		Set air samples at cardinal compass points around exclusion zone. Check
		throughout the day to ensure proper operation.
		Observe control measures for dust and fugitive materials i.e. watering excavation sites and
		track out prevention.
		Review sign-in/sign-out log throughout and at the end of the workday.
		Secure the site at the end of the workday
Sa	mpling	
<u>54</u> .	<u>mpims</u>	
NA	Soil C	onfirmation sampling for any newly excavated areas
\square		Stationary Air Monitoring during contaminated soil removal around the perimeter of the
		exclusions zone
NA	\	Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil
		removal
NA	\	Digitally photograph each sample location and at any place field sampling personnel





NA Electronically file photo files into the on-site database **Complete Field Documentation** ablaField Sample Data Sheets (FSDS) \square ablaLogbook NA On-site computer database \square Label each sample media with a unique number \square Seal sample(s) in zip lock plastic bags Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory \square Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples NA Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees NA Electronically file sample reports into on-site database



РНОТО 1



РНОТО 2



РНОТО 3



РНОТО 4

R & REnvironmental, Inc.
47 West 9000 South, Suite #2, Sandy, Utah 84070
(801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:	SCALE:	REVIEWED BY: DCR	
DRAWN BY: JMK	DATE: 10/12/2011	FILE:	

SITE PHOTOGRAPHS



3rd West Substation "2011 Upgrade Project" Salt Lake City, Utah



3rd West Substation Site Project Safety Audit

Project: 3rd West Sub Station		Date: 10/13/11					
Location:	3rd West, 1st South, SLC		Jo	b Nu	mber:		
Survey Conducted By: <u>Justin Kargis</u>		Title:					
•	· -	In Compliance	Out of Compliance	N/A	Corrective Action Taken and		
Standard	Title				D a te		
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			x			
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			x			
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	x					
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			x			
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toeboards shall be installed.			x	·		
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x					

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title		\Box		Date
1926.652 (a) (1)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			x .	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.	x			
1926.20 (b)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			х	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toeboards.			x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	D ebris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			х	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.			x	
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			х	
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	•		х	

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	<i>Tit</i> le				Date
1926.451 (a)	Scaffolding shall have guardrails and toeboards when more than 10 feet high and when less than 45 inches of work space.			х	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			x	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	x			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			x	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			x	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	x			
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.			x	,
1926.102 (a) (1)	Eye and face protection shall be provided.	x			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	х			
1926.350 (a) (9)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.		!	х	,

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title				Date
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			х	
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	х	١		
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			х	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.			x	
1926.451 (a)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.			x	-
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			x	
1926.404 (f)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	x			
1926.556 (b)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.	-		x	-
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest , system shall be used at 6 feet or more.			х	

Standard	<i>Ti</i> tle	In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title		<u> </u>	<u> </u>	Dute
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.		I	x	
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	x	-		,
1926.451 (a)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.			x	·
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.		5	x	

Comments:

Newman worked until 7:30 on elevating and compacting material in zone 1. Only north half passed compaction testing.

CVE continued with building forms and placing building materials.

No active exclusion zone.





3RD WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

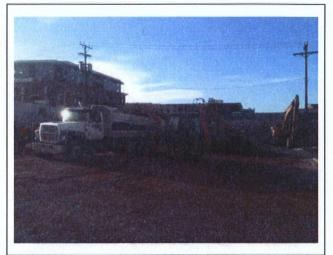
DAILY CHECKLIST

	DAIL I CHECKLIST
DATE:	10/13/11
General	
	Work area Health and Safety Inspection
NA	Review and if necessary update Activity Hazard Analyses (AHA) based on planned site
NA.	activities for the day
NA	Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
· NA	Site hazard and safety instruction for all first time employees, contractors or visitors
NA	Complete Employee Meeting Record Form B (where applicable
	ment required Respirator Training completion with Form H
NA	Record times and numbers of dump trucks and trailers as they leave the site with contaminated material.
Ø	Confirm return of waste material manifest documents for each load with site manager.
NA	Complete all CSHASP Forms (for applicable activities planned for that day)
NA	Illness/Injury Report Form A
NA	Site-Specific Training Record Form C
NA	Hot Work Permit Form D
NA	Trench/Evacuation Permit Form E
NA	Combined Space Entry Permit From F
$\mathbf{N}\mathbf{A}$	Exclusion zone operations are practiced as instructed.
	NA Decontamination unit is working properly.
	NA Workers are using decontamination unit as instructed.
	NA Workers use personal protective equipment properly.
Ø	Set air samples at cardinal compass points around exclusion zone. Check
	throughout the day to ensure proper operation.
Ø	Observe control measures for dust and fugitive materials i.e. watering excavation sites and track out prevention.
	Review sign-in/sign-out log throughout and at the end of the workday.
	Secure the site at the end of the workday
<u>Sam</u> pling	g ·
NA Soil (Confirmation sampling for any newly excavated areas
Ø	Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusions zone
NA	Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil removal
NA	Digitally photograph each sample location and at any place field sampling personnel determined necessary





NA Electronically file photo files into the on-site database \square Complete Field Documentation ablaField Sample Data Sheets (FSDS) ablaLogbook NA On-site computer database ablaLabel each sample media with a unique number ablaSeal sample(s) in zip lock plastic bags ablaComplete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory ablaPackage samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples NA Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees NA Electronically file sample reports into on-site database



РНОТО 1



РНОТО 2



РНОТО 3



РНОТО 4

R & REnvironmental, Inc.
47 West 9000 South, Suite #2, Sandy, Utah 84070
(801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:	SCALE:	REVIEWED BY: DCR		
DRAWN BY: JMK	DATE: 10/13/2011	FILE:		

SITE PHOTOGRAPHS



3rd West Substation "2011 Upgrade Project" Salt Lake City, Utah



3rd West Substation Site Project Safety Audit

Project: 3 rd West Sub Station Location: 3 rd West, 1 st South, SLC Survey Conducted By: Justin Kargis		Date: <u>10/14/11</u> Job Number:					
				In Compliance	Out of Compliance	N/A	Correct <i>ive A</i> ction T <i>ake</i> n <i>a</i> nd
Standard	Title			\Box	Date		
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			x	,		
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			x	,		
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	x					
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			x			
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toeboards shall be installed.			x			
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x					

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title	\Box	\Box	\Box	Date
1926.652 (a)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			х	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.	х			
1926.20 (b)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			х	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toeboards.			x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	D ebris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			x	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.			x	
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			x	
1926.403 (b)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.			x	

٠.

Standard	<i>Title</i>	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
1926.451 (a) (4)	Scaffolding shall have guardrails and toeboards when more than 10 feet high and when less than 45 inches of work space.			x	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			x	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	X			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			x	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			x	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	x			
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.			x	·
1926.102 (a) (1)	Eye and face protection shall be provided.	x			,
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	x			•
1926.350 (a) (9)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.			х	

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title			□.	Date
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			Х	
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	x			
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			x	·
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.			х	
1926.451 (a)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.			х	·
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			x	
1926.404 (f) (7)	Electrical equipment commected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	х	-		
1926.556 (b)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.			X	
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			х	

		In Compliance	Out of Compliance	N/A	Corrective Action Taken and
Standard	Title Title				Da te
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.		•	х	
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	x			
1926.451 (a)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.			x	
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			x	

Comments:

Newman excavated in N.E. and S. E. corners to determine if depths for building footings will cut into contaminated soil. Did not see native soil at depths when they stopped.

CVE worked throughout the day on forms and were able to pour footer for transformer building in zone 1 around 6:30 pm.





3RD WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

	DAILY CHECKLIST
DATE:	10/14/11
General	
· 🗹	Work area Health and Safety Inspection
NA	Review and if necessary update Activity Hazard Analyses (AHA) based on planned site
	activities for the day
NA	Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
NA	Site hazard and safety instruction for all first time employees, contractors or visitors
NA	Complete Employee Meeting Record Form B (where applicable
NA Docu	ment required Respirator Training completion with Form H
NA	Record times and numbers of dump trucks and trailers as they leave the site with contaminated material.
☑	Confirm return of waste material manifest documents for each load with site manager.
NA	Complete all CSHASP Forms (for applicable activities planned for that day)
NA	Illness/Injury Report Form A
NA	Site-Specific Training Record Form C
NA	Hot Work Permit Form D
NA	Trench/Evacuation Permit Form E
NA	Combined Space Entry Permit From F
NA	Exclusion zone operations are practiced as instructed.
	NA Decontamination unit is working properly.
	NA Workers are using decontamination unit as instructed.
	NA Workers use personal protective equipment properly.
Ø	Set air samples at cardinal compass points around exclusion zone. Check
_	throughout the day to ensure proper operation.
Ø	Observe control measures for dust and fugitive materials i.e. watering excavation sites and track out prevention.
	Review sign-in/sign-out log throughout and at the end of the workday.
\square	Secure the site at the end of the workday
<u>Samplin</u>	g
NA Soil (Confirmation sampling for any newly excavated areas
Ø	Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusions zone
NA	Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil removal
NA	Digitally photograph each sample location and at any place field sampling personnel determined necessary





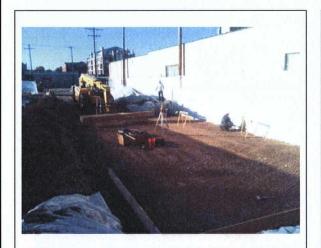
NA	Electronically file photo files into the on-site database
$\overline{\mathbf{Q}}$	Complete Field Documentation
	Field Sample Data Sheets (FSDS)
	Logbook
NA	On-site computer database
7	Label each sample media with a unique number
	Seal sample(s) in zip lock plastic bags
Ø	Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
	Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
NA	Review and disseminate sample results as received from the laboratories to Project
	Manager and other appropriate managers and employees
NA	Electronically file sample reports into on-site database



РНОТО 1



РНОТО 2



РНОТО 3



РНОТО 4

R & REnvironmental, Inc.
47 West 9000 South, Suite #2, Sandy, Utah 84070
(801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY: SCALE: REVIEWED BY: DCR DRAWN BY: DATE: FILE: 10/14/2011 **JMK**

SITE PHOTOGRAPHS



3rd West Substation "2011 Upgrade Project" Salt Lake City, Utah

PACIFICORP OPERATIONS - Field Construction Representative Daily Log PROJECT NAME: Third West Sub - Rebuild Sunday, October 9, 2011 DATE: 3000078050 / 10035803 PO & Work Order NO.: MAIN CONTRACTOR: Cache Valley Electric 8:00 **Crew Start Time:** Crew Stop Time: 12:00 4:00 Tot Hrs mns: FCR Start Time: 8:00 12:00 FCR Stop Time: 4:00 Tot Hrs mns: Use military time format 00:00 **WEATHER CONDITIONS:** Partly Cloudy, Sunny - 60 degrees DESCRIPTION: (work performed, general comments, instructions to contractor, # of crew members onsite.) R&R set up four monitors. Set up the monitors at 8:00. Returned at 5:00 PM to remove the monitors. Total hours worked is 4 hours. Contractors: R&R = 1 IF WORKING IN ENERGIZED SUBSTATION: Dispatcher login, name and time: Joe Bryant 0850 Dispatcher logout, name and time: Joe Bryant 1705 DISCREPANCIES: **IMMEDIATE CORRECTIVE ACTION TAKEN:** DELAYS OR LOST TIME ENCOUNTERED:

EQUIPMENT		

Pickup, portable toilet, forklift, 2 dumpsters, office trailer, conex, exclusion zone conex (2), water wagon, portable wash-down structure, trackhoe, trackhoe w/pavement breaker, mini-ex, bobcat, power washer, water truck, compactor

OSHA Recordable Safety Incidents: Reported by: Time:



Russ Johnson

Field Construction Representative

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME:	Third West Sub	DATE: Monday, October 10, 2011								
PO & Work Order NO. :	3000078050 / 10	0035803	MAIN CONTR	ACTOR :	Cache Valle	y Electric				
Crew Start Time:	7:00	Crew Stop Time:	17:10		Tot Hrs mns:	10:10				
FCR Start Time:	6:45	FCR Stop Time:	17:15		Tot Hrs mns:	10:30				
Use military time format 00:00		_			-					
WEATHER CONDITIONS:		Partly	Cloudy, Sunny -		•					
DESCRIPTION: (work perform										
R&R set up four monitors. Two of Newman continued hauling in ABC started shaking out and tying rebar Contractors: CVE = 5, Newman	material for use in the b . Brian King and Robert	ackfilling of the control b Hamilton, RMP Environ	uilding foundation.	CVE civi	i crew mobed to	the site and				
	·									
		•			•					
IF WORKING IN ENERGIZED	SUBSTATION:		·							
Dispatcher login, name and time:	Gus Montanez 0650					`				
Dispatcher logout, name and time:	Manny LuHaun 172									
DISCREPANCIES:		<u></u>	MMEDIATE CO	RRECTIV	E ACTION TA	KEN:				
•		*	•							
					•					
· · · · · · · · · · · · · · · · · · ·	·									
DELAYS OR LOST TIME ENC	OUNTERED.			<u> </u>						
DELATS OR LOST HIME ENC	OUNTERED.									
						i				
EQUIPMENT (working, delive	rod idlo\:									
Portable toilet (2), forklift, 2 dumpsters, w/pavement breaker, mini-ex, bobcat, p	office trailer, conex, exclus			n-down stru	cture, trackhoe, tra	ackhoe				
·						ļ				
OSHA Recordable Safety Inci	idents:		R	eported	bv:	 Time:				
Committee of the original orig			<u></u>	- p 0, tou						
										



Russ Johnson

PACIFICORP OPERATIONS - Field Construction Representative Daily Log Third West Sub - Rebuild PROJECT NAME: DATE: Tuesday, Octcober 11, 2011 PO & Work Order NO.: 3000078050 / 10035803 MAIN CONTRACTOR: Cache Valley Electric Crew Start Time: 7:00 -**Crew Stop Time:** 10:15 17:15 Tot Hrs mns: FCR Start Time: 6:50 FCR Stop Time: 17:20 10:30 Tot Hrs mns: Use military time format 00:00 **WEATHER CONDITIONS:** Cloudy / Rainy / Partly Cloudy - 60 degrees DESCRIPTION: (work performed, general comments, instructions to contractor, # of crew members onsite.) R&R set up four monitors. Newman continues to import ABC material for backfill. Newman is working in the exclusion zone lining the west and north slopes with visqueen and placing material on the south and east slopes prior to starting the backfill which will encapsulate the native material, allowing us to work in the area without wearing asbestos PPE. Completed the placement of visqueen and the base layer of ABC material at 11:00 and declared the area around the control building excavation to no longer be an exclusion zone. R&R concurred. Newman removed the portable truck wash structure from the area to allow better access into the site for the placement of the balance of the backfill material. Placed ABC material in the bottom of the hole. Not able to achieve 95% compaction before quitting time. Will try again tomorrow. CVE is tying rebar for the spread footer mats. Contractors: CVE = 4 Newman = 4, R&R = 1, Wilding = 1. IF WORKING IN ENERGIZED SUBSTATION: Dispatcher login, name and time: Gus Montanez 0650 Dispatcher logout, name and time: Barry Nielson 1715 **DISCREPANCIES: IMMEDIATE CORRECTIVE ACTION TAKEN:** DELAYS OR LOST TIME ENCOUNTERED: EQUIPMENT (working, delivered, idle):

Portable toilet (2), forklift, 2 dumpsters, office trailer, conex, exclusion zone conex (2), water wagon, portable wash-down structure, trackhoe, trackhoe

w/pavement breaker, mini-ex, bobcat, power washer, water truck, compactor, CVE tool trailer, crew truck, backhoe.

ROCKY MOUNTAIN POWER

OSHA Recordable Safety Incidents:

Russ Johnson

Field Construction Representative

Reported by:

Time:

PACIFICORP OPERATIONS - Field Construction Representative Daily Log PROJECT NAME: Third West Sub - Rebuild DATE: Wednesday, October 12, 2011 PO & Work Order NO.: 3000078050 / 10035803 MAIN CONTRACTOR: Cache Valley Electric Crew Start Time: 7:00 Crew Stop Time: 17:15 Tot Hrs mns: 17:20 FCR Start Time: 6:55 FCR Stop Time: Tot Hrs mns: 10:25 Use military time format 00:00 **WEATHER CONDITIONS:** Sunny - 60 degrees DESCRIPTION: (work performed, general comments, instructions to contractor, # of crew members onsite.) R&R set up four monitors. No exclusion zone is currently in operation. Newman continues to import and place ABC material for backfill in the control building excavation. 95% compaction achieved on first lift around 10:30. Second lift if underway. CVE is tying rebar for the spread footer mats and mobing materials for forming up the footers and walls for the control building. Contractors: CVE = 4, Newman = 3 R&R = 1, Wilding = 1. IF WORKING IN ENERGIZED SUBSTATION: Dispatcher login, name and time: Ken Barto 0655 Dispatcher logout, name and time: Barry Nielson 1730 DISCREPANCIES: **IMMEDIATE CORRECTIVE ACTION TAKEN: DELAYS OR LOST TIME ENCOUNTERED:** EQUIPMENT (working, delivered, idle): Portable toilet (2), forklift, 2 dumpsters, office trailer, conex, exclusion zone conex (2), water wagon, portable wash-down structure, trackhoe, trackhoe



OSHA Recordable Safety Incidents:

w/pavement breaker, mini-ex, bobcat, power washer, water truck, compactor, CVE tool trailer, crew truck, backhoe.

Russ Johnson

Reported by:

Time:

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME:	Third West Sub	- Rebuild	DATE:	3, 2011		
PO & Work Order NO. :	3000078050 / 1	0035803	MAIN CONT	RACTOR :	Cache Valle	y Electric
Crew Start Time:	7:00	7:00 Crew Stop Time:)	Tot Hrs mns:	12:20
FCR Start Time:	6:50	FCR Stop Time:	19:29	5	Tot Hrs mns:	12:35
Use mi/itary time format 00:00		_		<u>-</u>		
, .						
WEATHER CONDITIONS:		Sun	ny - 60 degree	s		
DESCRIPTION: (work performe						
insure that they will make their final p control building, once a specification placing CDF so walls aren't damaged box when we pour the rest of the buil and that if we don't install the rebar p forms and tying rebar. Newman is costart setting forms on Friday morning morning and CVE will be able to get s	has been submitted and during placement. Coloring. Brent has reque er the drawing that we ontinuing to place ABC. Worked until 7:30 are	nd approved by RMP. A clearance on the west sidested that we insure that we watch our lap splices. In the building excavating couldn't get the south	Also advised by E de of the control an appropriate b We intend to ins on and we are s end of the back	Brent Wiggins building requonding ager tall per the ditaying late to fill to pass.	s to take precautifies that we not not it is utilized at the rawings. CVE is make sure that We think it will pa	tions in pour the pull e cold joint s making up CVE can ass this
IF MODIVING IN ENERGIZED OF	IDOTATION:		······- · ···	 		
IF WORKING IN ENERGIZED SUDISpatcher login, name and time:		= ,				
Dispatcher logout, name and time:	Gus Montanez 0655)				
DISCREPANCIES:	Jim Bowman 2030	-	MMEDIATE C	ODDECTIV	E ACTION TA	KCN.
DISOREF ANOIES:			HINIEDIA I E O	OKKLOTIV	·	TICLIA.
			•			
,						
DELAYS OR LOST TIME ENCO	UNTERED:					
EQUIPMENT (working, delivere	d, idle):					
Portable toilet (2), forklift, 2 dumpsters, off w/pavement breaker, mini-ex, bobcat, pov	fice trailer, conex, exclus				cture, trackhoe, tra	ackh oe
OSHA Recordable Safety Incide	ante:			Reported	by:	 Time:
Coma Recordable Salety Incide	- III.			vehoused	оу.	inne.
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				l		



Russ Johnson

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME:	Third West	Sub - Rebuild	DATE : Frid	2011	
PO & Work Order NO. :	300007805	0 / 10035803	MAIN CONTRACTOR	: Cache Valle	y Elec tr ic
Crew Start Time:	7:00	Crew Stop Time:	17:50	Tot Hrs mns:	10:50
FCR Start Time:			18:00	Tot Hrs mns:	11:15
Use military time format 00:0		-			
MEATUED CONDITIONS		C	75 do		
WEATHER CONDITIONS:	· . ———	Sun	ny - 75 degrees		
DESCRIPTION: (work per					
R&R set up four monitors. Cu 8:15. CVE crew moved in to si detennine if we are going to be will perform a soil bearing test foot of material. CVE was able completing the pour and cleans site clean and orderly. Contra	tart placing forms. New in the fill material or th to see if the existing fill to get the footings forr up at 17:50. It should b	man is excavating a hole in to e native material with our exc material meets the requirement and rebar tied today and the noted that both CVE and N	he vicinity of the east end of avation. If we remain in the ents without Newman needing they poured 12 cy of concrewman crews are doing an	of the switchgear for the existing fill mate ing to over-ex an a ete, starting at 16	oundation to rial, W ilding additional on :45 and
IF WORKING IN ENERGIZ				<u> </u>	
Dispatcher login, name and tim					
Dispatcher logout, name and ti	me: Jim Bowman 1				
DISCREPANCIES:			MMEDIATE CORRECT	VE ACTION TA	KEN:
•					
					
		i			
DELAYS OR LOST TIME E	NCOUNTERED:		····		
					
				•	
		-			
		•	•		
EQUIPMENT (working, de	livered, idle):				
Portable toilet (2), forklift, 2 dumps w/pavement breaker, mini-ex, bob				ructure, trackhoe, tra	ackhoe
OSHA Recordable Safety	Incidents:		Reported	d by:	 Time:
<u> </u>					
					·



Russ Johnson

Field Construction Representative

PACIFICORP OPERATIONS - Field Construction Representative Daily Log Third West Sub - Rebuild PROJECT NAME: DATE: Saturday, October 15, 2011 3000078050 / 10035803 MAIN CONTRACTOR: Cache Valley Electric PO & Work Order NO.: Crew Stop Time: 14:45 7:00 Crew Start Time: Tot Hrs mns: 7:45 6:45 15:00 FCR Start Time: FCR Stop Time: 8:15 Tot Hrs mns: Use military time format 00:00 Sunny - 75 degrees **WEATHER CONDITIONS:** DESCRIPTION: (work performed, general comments, Instructions to contractor, # of crew members onsite.) R&R set up four monitors. Currently there is not an active exclusion zone. CVE stripped footer forms and began forming up the building walls and the walls for the pull boxes and vaults. They got the interior wall approximately 60% complete and anticipate pouring the walls on Wednesday, 10/19. Contractors: CVE =3, R&R = 1. IF WORKING IN ENERGIZED SUBSTATION: Dispatcher login, name and time: Kelly Astill 0650 Dispatcher logout, name and time: ???????? 1500 (Sorry, new name and can't remember) IMMEDIATE CORRECTIVE ACTION TAKEN: DISCREPANCIES: DELAYS OR LOST TIME ENCOUNTERED:

EQUIPMENT (working, delivered, idle):

Portable toilet (2), forklift, 2 dumpsters, office trailer, conex, exclusion zone conex (2), water wagon, portable wash-down structure, trackhoe, trackhoe w/pavement breaker, mini-ex, bobcat, power washer, water truck, compactor, CVE tool trailer, crew truck, backhoe.

OSHA Recordable Safety Incidents: Reported by: Time:



Russ Johnson

Field Construction Representative



October 18, 2011

Laboratory Code:

RES

Subcontract Number:

NA

Laboratory Report: Project # / P.O. # RES 222621-1 None Given

Project Description:

Rocky Mtn. Power 3rd West Sub Station

David Roskelley R & R Environmental 47 West 9000 South #2 Sandy UT 84070

Dear Customer.

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 222621-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer Orr

President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:

RES 222621-1

Client:

R & R Environmental

Client Project Number / P.O.: None Given

Client Project Description:

Rocky Mtn. Power 3rd West Sub Station

Date Samples Received:

October 17, 2011

Analysis Type:

Turnaround:

TEM, AHERA 24 Hour

Date Samples Analyzed:

October 18, 2011

Client ID Number	Lab ID Ni	Area umber Analyzed		Air Volume Sampled	Number of Asbestos Structures Detected	Analytical Sensitivity	Asbestos Concentration	Filter Loading
			(mm²)	(L)		(s/cc)	(s/cc)	(s/mm²)
3W-101411-S	EM	811490	0.1100	754	ND	0.0046	BAS	BAS
3W-101411-N	EM	811491	0.1100	750	ND	0.0047	BAS	BAS
3W-101411-W	EM	811492	0.1100	761	ND	0.0046	BAS	BAS
3W-101411-E	EM	81149 3	NA	. 0	, NA			

NA = Not Analyzed

Filter Material = Mixed Cellulose Ester

ND = None Detected

Filter Diameter = 25 mm

BAS = Below Analytical Sensitivity Average Grid Opening in mm² = 0.011 Effective Filter Area = 385 sq mm

DATA QA

RES 222621

	8801 Logen St. Denver, C Pager : 303-50	9-2090	3		64-188	8 • Fax	303-4	77-427	'5 • To	il Free	:088 R	ESI E						•			-	
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	6 Services										7101										_	
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(Ruah PCM = ahr, TEM = ehr.)	*	4													uat =			eint = P		······································		
CHEMISTRY LABORATORY HOURS: Weekdays: 8am - Spm		4												***********	 			ipe • W				
Metal(a) / Ouat RUSH 24 hr3-5 Day	**Ptter netineatieu le		Quant,		ı	1 1			=					****	ab o			= Food				
RCRA 6 / Matala & WeMing Fume Sean / TCLP RUSH 5 day10 day	required for RUSH	15		1 1	. [88		11	養	11	11	E G	6	Drinking	yva			Water a WW				
Organica 24 hr 3 day 8 Day	tumaround#.**	Point Count	‡ ₽		1	8		1 1	擅		11		5	*ART	MEI) = O0ier pproved wipo	media only**				
MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pi			5 5 5 5			Metals			ð		S	. 5	3		101		pprovod vapo	I toole crity				
E.coll 0157:H7, Coliforma, S.suraem24 hr2 Day	3-5 Day	Gport			ĺ		- 1		8	Suffication Cuantifica	Ouantification		置					1 1	i			
Salmonalia, Ustaria, e.coli, APC, Y & M 48 Hr3-5 Day		1	7402, ISO-Ind	OSHA	ایو	Fume,	- 1	11	*		9	açor.	2	ì				ì				
Mold RUSH 24 Hr		B		8		_ B		*	뉱	8			8									
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apply for afterhours, weekends and holidays."	. O Her Banished . Meanwell 1000	.8	\$ ₹	3	-	9 9	뽗		눚 월	4	. ₹ .	+ + + = = = = = = = = = = = = = = = = =	S INTIALS OR OTHER	1 5		120						
Special Instructions:		il - Short report,	8 - AHERA, ni-quent, Mic		ST - Total,	RETALS - Ayayte(s) RCRAB, TCLP, Welding	ORGANICS - METH	E.cos 0157.H7:	Listerta: +/- Aerobic Plate Count:	Ecot: +	S. sarrans.	흥	MPLERS	Sample Volume (L) / Area	Matrix Code	# Containers	Dala Collected	Time Collected	EM Nu	nb er (Lat Jsa Only)	iora ti	
Client sample ID number (Sample ItYs must be unique	9)	2	E E		DUST	# 5	8		MICR	OBIOL	OGY		8	83 €	_ ₹	#	mm/dd/yy	hhimm aip				
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2 3W-101411 - N	······································		1									-		750	T						15	
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4 3W-10141(-E (Blank)	Program of the control of the contro		1	1-1	-					 			 	NA	Ĭ.			 			72	
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NOTE RE! will entitle incerning semples based upon informyllers received entit win nel bo energials so indicated on the Chain of Custedy shall sonetilute an englydcal condose agreen	respanditie for errom or omissions in	calculat	tions re	sutting f	from the	ment te	racy o	f origin ay resu	a) data It in a	. By elc 1.5% m	ning cli onthly !	ent/co	mpany n t surchar	presentati 190.	ve egr	ees tiy	et submission o	f the following sa	mples for re	driested		
Relinquished By: Laboratory Use Only Received By: Deligible Delig	Fed Ex Hemma: 10:17.11	,		Date 1≤	emme		T	110	1	3×)				•	Con (F°)			Sealed 'es / No	Intad Yea / N	10	
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Attachment I

Key to Count Sheets Count Sheets Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type

Structure Types

A = Amosite	F = Fiber
An = Anthophyllite	B = Bundle
C = Chrysotile	C = Cluster
Cr = Crocidolite	M = Matrix
T = Tremolite	

ND = no structures detected

= other structure associated with a matrix

NAM = Non Asbestos Mineral

XGB = partly obscured by a grid bar

Sizing Conversion

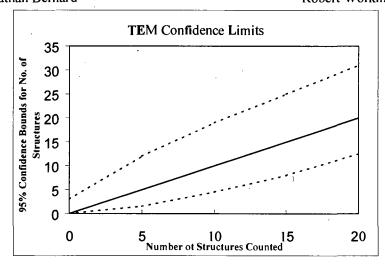
1 length unit = 5 mm on screen = 0.278 micron 1.80 length units = 0.5 micron

18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr Nathan DelHierro Angela Heitger Jonathan Bernard Paul D. LoScalzo Mark Steiner Norberto Zimbleman Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Laboratory name:	REt
Instmment	JEOL 100/N S
Voltage (KV)	100 KV
Magnification	(20K)PIOKX
Grid opening area (mm2)	0.011
Scale: 1L=	0,28 um
Scale: 1D =	0.056 um
Primary filter area (mn/2)	365
Secondary Filter Araa (mm2)	
QA Type	

Rak
A
754
10/17/4
222 62
811470

Analyzed by	513
Analysis date	10/18/1
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	Alt
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Pro	eps Only):
Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter	

Grid	Grid Opening	Structure	No. of St	mctures	Dime	nsions	Identification	Mineral Class			1 = ves, blank = no			
	One Opening	Туре	Primary	Total	Length	Width	identinoguent	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	174-4	ND												
	64-4	M)		,										!
	F4-4	M			Pno	5	19/2	15 min	hus	- 3	8-5% del	<u>い</u> つら		
	615-11	M)			\			6						
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B	K4-4	W)						(/ /					·	
	H4-4	MS								,				
	64-4	W					· ·	,	_					
	F4-4	M												
	E4-4													

Leboratory name:	REI
Instrument	JEOL 100/N S
Voltace (KV)	100 KV
Magnification	(2010×10KX
Grid opening area (mm2)	0.011
Scale: IL =	0,28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
	· · · · · · · · · · · · · · · · · · ·
QA Type	<u> </u>

Rak
A
750
10/17/4
222 62
811471

Fraction of pdmary filter used	
Total Resuspension Voluma (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	<i>51</i> 5
Analysis date	10/18/1
Method (D=Olrect, I=Indirect,	7-7-
IA=Indirect, ashed)	1 1
Counting rules	Adl
(ISO, AHERA, ASTM)	ALL
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grld Opening	Structure	No. of St	ructures	Dime	rsions	Identification	fication Mineral Class				1 = y	es, blank	= no
01.0	Gild Opolining	Туре	Primary	Total	Length	Width	radinanoutabil	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	44-4	W		<u></u>										
	64-4	$\Delta \Omega$												
	F4-4	W				D	A	190%	m	f.	So of	NS		
	E4-4	M				Por	Bu	ALI	1/					
	C4-4	ND					//	15 / 10/	10hi					
	B4-4	NO					1		7					
B	14-6	ND					/							
	64-6	MS									:			
	F4-6	M												
	E4-6	W												

Laboratory name:	REI
Instrument ·	JEOL 100/11 S
Voltage (KV)	100 KV
Magnification	(2010×10KX
Grld opening area (mm2)	0.011
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	365
Secondary Filter Area (mm2)	
QA Type	

Rak
A
761
10/17/4
222 62
811492

Fraction of primery filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (mi)	

Analyzed by	<i>3</i> b
Analysis date	10/18/11
Method (D=Direct, l=Indirect, IA=Indirect, ashed)	'σ'
Counting rules (ISO, AHERA, ASTM)	Alt
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Stmcture	No. of St	ructures	Dimer	nsions	Identification	Mineral Class				1 = yes, blani		= no
		Туре	Primary	Total	Length	Width		Amphibole	C NAM		Sketati/Comments	Sketch	Photo	<u>EOS</u>
A	614-6	M	701.											
	F-4-6	M								•				
	E4-6	ND			1	w A	80/	ea hut	(he	debris			
	C4-6	M			P		6 75	le in but	- 5	0/	debnic,			
	34-6	M				/	. 7	1	,	10				
B	H3-3	WD					1	Bul	10/18	k/				
	43-3	ND	9,											
	F3-3	ND	2.5											
	E4-4	ND												
<u> </u>	1044	M												

<u>Analytical Procedures – AHERA</u>

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber: . is a structure having a minimum length greater than or equal to 0.5

micron with an aspect ratio of 5:1 or greater with substantially parallel

sides.

Bundle: is a structure composed of three or more fibers in parallel arrangement,

with each fiber closer than the diameter of one fiber.

Cluster: is a structure with fibers in random arrangements such that all fibers are

intermixed and no single fiber is isolated from the group.

Matrix: is a fiber or fibers with one end free and the other end embedded or

hidden by a particulate. The exposed fiber end must meet the fiber

definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

Area Analyzed, mm² = # GO counted x Average GO Area (mm)

Concentration, $s/cc = \frac{\# \text{ Asbestos Structures}}{\# \text{ GO Counted}} \times \frac{I}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2)}{\text{Average GO area (mm}^2)} \times \frac{11}{1000cc}$

Filter loading, s/mm² = # Asbestos structures Area Analyzed (mm²)

GO = TEM grid opening



October 12, 2011

Laboratory Code:

RES

Subcontract Number:

NA

Laboratory Report: Project # / P.O. #

RES 222298-1 None Given

Project Description:

3rd West Sub Station -

RMP

David Roskelley R & R Environmental 47 West 9000 South #2 Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 222298-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer Orr

President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:

RES 222298-1

Client:

R & R Environmental

Client Project Number / P.O.: None Given

Client Project Description:

3rd West Sub Station - RMP

Date Samples Received:

October 11, 2011

Analysis Type:

TEM, AHERA

Tumaround:

24 Hour

Date Samples Analyzed:

October 12, 2011

Client ID Number	Lab ID Number	Area Analyzed	Air Volume Sampled	Number of Asbestos Structures Detected	Analytical Sensitivity	Asbestos Concentration	Filter Loading
•		(mm²)	(L)		(s/cc)	(s/cc)	(s/mm²)
3W-101011-E	EM 808578	0.0990	876	ND	0.0044	BAS	BAS
3W-101011-S	EM 808579	0.0990	875	ND	0.0044	BAS	BAS
3W-101011-N	EM 808580	0.0990	874	ND	0.0044	BAS	BAS
3W-101011-W	EM 808581	0.0990	874	ND	0.0044	BAS	BAS

NA = Not Analyzed

Filter Material = Mixed Cellulose Ester

ND = None Detected

Filter Diameter = 25 mm

BAS = Below Analytical Sensitivity Average Grid Opening in mm² = 0.011 Effective Filter Area = 385 sq mm

DATA QA

RES 222298

Pager: \$03-509-2098

	INVOICE TO: (IF	DIF	FERE	NT)										CC	NTAC				ION:			
Company: (L.F. K. Erustoniania)	Сопрапу:						itect:	Do	ve	Re	<u> </u>	elle	v.				Conte					
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Sandy W. 84070						Fap	Feec						Ftx:									
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Project Number and for P.O. 8. Project Oseanotion? scattle: 30 West Sub Stewson	RMP					Fir	d Det	Delly	arette	Eme	li Add	ere:										
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(Rush PCM = 2hr, TEM = 6hr.)		[1			1						2	ust =	D		Pε	int = P		
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Salmonella, Listeria, E.coll, APC, Y & M48 Hr3-6 Day		8	~ **		Ž.	2		ي ا		اید		3	2	g	100		1				}	<u> </u>
MoldRUSH24 Hr		12	Level II, To-vac, B	7400B,	idsa	(왕) 기원	Ŧ	4 4		1	3 5	B (1	3		1						
"Turneround titres establish a laboratory priority, subject to laboratory volume and a apply for alternouna, weekends and holidays." Special instructions:	re not guaranteed. Additional Ites	Short report		7400A, 74	- Total, Respirable	- And	ORGANICS - METH	Satmonella: +/-	÷	Aerobic Plate Count	# 4 OF	7+ SIR	÷ ;	APLER'S INTIALS OR OTHER NOTES	Sample Volume (L) / Area	oge e	ners					
		PLM - St	TEM - AHERA. Somi-quant, Micr	PCM - 74	OUST - 1	METALS RCRA 8.	RGANIC	September 1			Cotions +		3	MPLE	Sample V (L) / Area	Matrix Code	# Containers	Colle	ete ected	Time Collected		mber (Laborator Usa Only)
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Attachment I

Key to Count Sheets Count Sheets Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type

Structure Types

A = Amosite	F = Fiber
An = Anthophyllite	B = Bundle
C = Chrysotile	C = Cluster
Cr = Crocidolite	M = Matrix
T = Tremolite	

ND = no structures detected

M = other structure associated with a matrix

NAM = Non Asbestos Mineral

XGB = partly obscured by a grid bar

Sizing Conversion

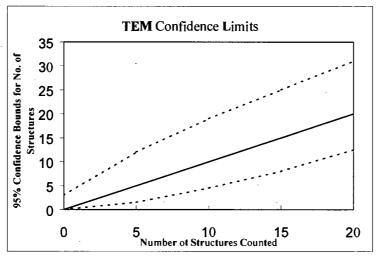
1 length unit = 5 mm on screen = 0.278 micron 1.80 length units = 0.5 micron

18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr Nathan DelHierro Angela Heitger Jonathan Bemard Paul D. LoScalzo Mark Steiner Norberto Zimbleman Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Laboratory name:	REI
Instmment	JEOL 100 (A) S
Voltage (KV)	t00 KV
Magnification	20KX 10KX
Grid opening area (mm2)	0.011
Scale: 1L =	0.28 um
Scale: 10 =	0.0SS um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Tyoe	

Client:	R+	R
Sample Type (A=Alr, O=Dust):	1	}
Air volume (L) or dust area (cm2)	8	76
Date received by lab	10/11	tı
Lab Job Number:	22	2298
Lab Sample Number:	808	578

Analyzed by	JB_
Analysis date	10/12/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indiract Pi	reps Only):
Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary lilitar	

Grid	Grid Opening	Strncture	No. of Str	uctures	Dime	nsions	Identification	Mineral Class				1 = y	es, blank	= no
		Туре	Primary	Total	Length	Width		Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EOS
A	H6-4	ND			,									
	(16-4	. √ T?												
	F10-4	ND				Pos		80% int	m f	5%	le by 27			
	E6-4	ND				Pico	B 9	0 % into	16	50	debris			
	66-4	ND					·	1						
B	F4-4	ND	i pe					113	1	ka li			· ·	
	E4-4	ND					,	1		, ,		•	·	
	(4-4	ND						/	·		·		·	
	B4-4	ND	9.34-071-5					!			-			
														

Laboratory nante:	REI
Instrument	JEOL 100 (N) S
Voltage (KV)	100 KV
Magnification	20KX/10KX
Grid opening area (mm2)	0.011
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	RHR
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	875
Date received by lab	10 11 11
Lab Job Number:	222298
Lab Sample Number:	808.5 79

Analyzed by	JB
Analysis date	10 12 11
Method (D=Direct, l=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Pactor	Calculation	(Indirect	Pre	ps Only):

Fraction of primary filter used	
Total Resuspenston Volume (ml)	
Volume Applied to secondary filter (ml)	

Gild	Grid Opening	Strncture	No. of St	ructures	Dimensions		Dimensions		Dimensions		Dimensions		Dimensions		Identification	Mineral Class				1 = v	1 = yes, blank = no	
		Туре	Primary	Total	Length	Width	ido itiliozation	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS								
A	F3-4	N			,																	
	E3-4	ND																				
<u></u>	C3-4	ND			F	mp	A 80	9 6 inhang		3-	of Lebri	b										
	B3-4	ND			P	w /	3 70	o bigton t		3.5	La debris											
	A3-4	ND				7	•	1 1														
B.	H2-3	ND				·		By Supl	2/11					,								
	62-3	ND						7	7													
	F2-3	ND										÷										
	E23	NO																				

Laboratory name:	REI
Instmment	JEOL 100 (N) S
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm2)	0.011
Scate: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	386
Secondary Filter Araa (mm2)	
QA Type	

DOID C	20 GH481
R+	R
P	
8	74
(0)(1	lii
22	2298
808	.5 % 0
	R+ B (0 11 22

F-Factor Calculation (Indirect Pro	sps Only):							
Fraction of pdmary filler used								
Total Resuspension Volume (ml)								
Volume Applied to secondary filter (ml)								

Analyzed by	JB
Analysis date	(0 h 2 n
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting miles (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alianment	Date Analyzed

Grid	Grid Opening	Structure	No. of St	ructures	Dime	Dimensions Mentification		Mineral Class				1 = yes, blank = no		
		Туре	Primary	Total	Length	Width		Arnphibole	С_	NAM	Sketch/Comments	Sketch	Photo	EDS
A	K4-1	ND			′				. ,					
-77	H4-1	ND				Pup	A 9	D'en sorbent		3.5	le de bris			
	614-1	ND				Pup	B 81) hoin frus	3	-5	debois			•
	F4-1	ND												
	E4-1	W						1	1					
B	614-6	てて				,		Hans	10/12	/.				
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	C4-6	ND												
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	·						·		L	·		·	L	Rev 3-2009

	
Laboratory name:	REI
Instrument	JEOL 100 (N) S
Voltage (KV)	100 KV
Magnification	20KX t0KX
Grid opening area (mm2)	0.011
Scalo: IL =	0.28 um
Scale: 10 =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Tyoe	

Client :	R	4	R				
Sample Type (A=Air, D=Dust):		A)				
Air volume (L) or dust area (cm2)	874						
Date received by lab	10	U	11				
Lab Job Number:	7	22	2298				
Lab Sample Number:	808581						

Analyzed by	JB
Analysis date	10/12/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules 0SO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):							
Fraction of primary filter used							
Total Resuspension Voluma (ml)							
Volume Applied to secondary filter							

Grid	Grid Opening	Stracture	No. of St	mctures	Dime	nsions	Idemification	Mineral Class				1 = y	es, blank	= no
		Туре	Primary	Total	Length	Width		Amphibole	c.	NAM	Sketch/Comments	Sketch	Photo	EDS
A	F4-4	ND			,			-						
	E4-4	ND		,										
	C4-4	ND				F	1 den	80°/0.	fru	f	3-5 ho de	bur		. :
	B4-4	S				Pu	wB	90 % in	Lu	4.	5 % de	1		i
	C3-1	ND							/					
13	F4-6	ZV.							Buch	10/1	2/11	·		
	E4-6	0						//	1	,	/	·		
	(4-10	W												
	1346	W					,					·		
		c		,										
					·	<u> </u>								Rev 3-2009

Analytical Procedures - AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber: is a structure having a minimum length greater than or equal to 0.5

micron with an aspect ratio of 5:1 or greater with substantially parallel

sides.

Bundle: is a structure composed of three or more fibers in parallel arrangement,

with each fiber closer than the diameter of one fiber.

Cluster: is a structure with fibers in random arrangements such that all fibers are

intermixed and no single fiber is isolated from the group.

Matrix: is a fiber or fibers with one end free and the other end embedded or

hidden by a particulate. The exposed fiber end must meet the fiber

definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Eauations Used for Calculations

Area Analyzed, $mm^2 = \# GO \text{ counted } x \text{ Average } GO \text{ Area } (mm)$

Concentration, s/cc = $\frac{\text{\# Asbestos Structures}}{\text{\# GO Counted}} \times \frac{1}{\text{Voiume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2)}{\text{Average GO area (mm}^2)} \times \frac{1L}{1000cc}$

Filter loading, s/mm² = # Asbestos structures Area Analyzed (mm²)

GO = TEM grid opening



October 13, 2011

Laboratory Code:

RES

Subcontract Number:

NA

Laboratory Report: Project # / P.O. #

RES 222360-1 None Given

Project Description:

Rocky Mtn. Power 3rd

West Sub Station

David Roskelley R & R Environmental 47 West 9000 South #2 Sandy UT 84070

Dear Gustomer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 222360-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer Orr

President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:

RES 222360-1

Client:

R & R Environmental

Client Project Number / P.O.: None Given

Client Project Description:

Rocky Mtn. Power 3rd West Sub Station

Date Samples Received:

October 12, 2011

Analysis Type:

TEM, AHERA

Turnaround:

24 Hour

Date Samples Analyzed:

October 13, 2011

Client	Lab		Area	Air	Number of	Analytical	Asbestos	Filter
ID Number	ID N	umber	Analyzed	Volume Sampled	Asbestos Structures Detected	Sensitivity	Concentration	Loading
			(mm²)	(L)	•	(s/cc)	(s/cc)	(s/mm²)
3W- 101111-E	EM	809108	0.0770	1106	ND	0.0045	BAS	BAS
3W -101111-S	EM	809109	0.0770	1106	ND .	0.0045	BAS	BAS
3W-101111-N	EM	809110	0.0770	1106	ND	0.0045	BAS	BAS
3W-101111-W	EM	809111	0.0770	1106	ND	0.0045	BAS	BAS

NA = Not Analyzed

Filter Material = Mixed Cellulose Ester

ND = None Detected

Filter Diameter = 25 mm

BAS = Below Analytical Sensitivity Average Grid Opening in mm² = 0.011 Effective Filter Area = 385 sq mm

Gina Vettraino Date: 2011.10.13 12:18:44 -06:00'

DATA OA

Due Time:

REILAB RESERVOIRS Environmental, inc. 500 Logan St. Derwer, © 80216 • Ph; 303 964-1966 • Fax 303-477-4275 • Toll Free :866 RESI-ENV

Pager : 303-609-2098

			INVO	CE TO: (IF	DIPF	ERE	NT)									CC	NTAC	T IN	FOR	MATION:			
Company:	Z& E EUNEW MEN		npeny:						Conta		Au	5	R	05/	ev	KY			Conta	<u> </u>	RAIG I	TOPL)
	476 9000 So	Add	rees:						Phone	:						_ ,			Pholi	ð: 			
	SAMPY UT 84070								Pex										Pex:				
								<u> </u>	Califor	Dete De	301	<u>- 5</u>	54/	<u> </u>	<u>03</u>	<u> </u>			Cell/p	ager. Ge	01-673	-748	<u> </u>
Project Number Project Descript		1-10-0	1 1 - 0	/	_				FENON		IAM S DE		MI ACC	russ:									
Project Descript	tion/location: Recky MTN	POUR 3rd	WEST	5UB	STE	1770			<u> </u>														
	S LABORATORY HOURS: Weekd							RE	QUE	STED	ANA	LY	SIS					VAL	ID N	IATRIX CO	DDES	L/	B NOTES:
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		= 2hr, TEM ≈ 6hr.)			4				1)ust =			aint = P		
	RY LABORATORY HOURS: Week				1							11						Soll =			fipe • W	ļ	
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	OLOOY LABORATORY HOURS: W					8 <u>₹</u>			Metats			ð	الله الم	, g		X X		T	П				
			_3-5 Day	·	ap for	. 7402, ISO-Indi	≰		e e	- 1 1	-	১			., Identification, Quantification	Ĕ					,		
Salmonella	a, Listeria, E.celi, APC, Y & M	48 Hr3-S Day			8		OSHA	욡	P.			7		Oua		8							
Mold		RUSH24 Hr48	HrS Day	5 Day]3	Wed II.	7400B,	Respirable fvte(s)	\$		*	팋	8 8			Tz]		
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		weakande and holidays.**			Short report,	 AHERA, Level I quart, Micro-vac, 	- 7400A,	Total,	RCRA 8, TCLP, Welding Fume,	Selmonette: +/-	5	문	÷ 2	12	+	<u>₹</u>	Volume	용	20			}	
Special Ins	structions:				8	₹ 5	1 1	- g	8		漫	erobic	Ħ S	S.aure	힐병	Ĕ	Sample V((L) / Area	Matrix Code	# Containers	Date	Time	EM Nu	mber (Laborato
-					풀	Semitor	3	DUST	8	§ 3	ک س	الكال	ك الله		. ₫	3	dwa (E E	වී	Collected	Collected	l	Use Only)
	The state of the s	nple ID's must to unique)			<u> </u>	FØ	X.	<u> </u>	2	5	MIC	CRO	BIOL	YOO	┯┥	<u> </u>		T-	#	mm/dd/yy.	imm'en a/p	$C \wedge c$	3100
	N-101111-E			·			-		-					++	$\downarrow \downarrow$		1106	+			ļ	80	3108
2 30	W-101111-5			<u> </u>									\perp	11			1106	1					7
3 3 4	- 101111 - N							_									1106						10
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8												Ш			Ш								
9									l]		
10	76									\Box	T	П		TT	П								
	samples received:	(Additional	samples stial	l be listed on	attact	tied lo	ng Ibri	nı.)															
NOTE: R	Ei will analysa incoming samples based upon infonr	naton received and will not be reapo	nelble for ames	or omissions m o	elcuietk	ons real	ulting fro	om tns i	accure	cy of or	ginei di	ata. S	y algr	ning cla	nt/cem	pany rsp	resaniaji\	e egre	es the	t submission of	the following se	mplee for re	quested
analysis :	as Indicated on this Chain of Custody shall constitute	e an analytical sarvices agrosment v	Ath payment lam	ia er NET 30 day	Me, Telikir	ra te con	nply wit	n paym	ent term	s may r	eeult in	8 7.8	3% mc	ininy in	tel sat	turctwrg), 						·
Relingui	shed By:	The.	FED E	×			Date/	/Time:									Sa	mple	Cond	dition; (On los S	Beeled	Hotact
Laborato	ory Use Only	19 .	10	12.//		اے	<i>223</i>			T.	de		\wedge				Te	mp. (F°) _	Y	es/No Y	es / No	Yes no
Received B	ay: Rel	Date/T						Ca	mler				<u> </u>										$\stackrel{\sim}{-}$
Results:	Contact Phone Email		Time	initi			ntact				one E						Date			Ţin	· · · · · · · · · · · · · · · · · · ·	Inis	
1	Contact Phone Email	Fax Date	Time	init	als	lCo	ntact			Ph	one E	mail	ii Eo	~			Date			Tim	1A	Initi	ole

Attachment I

Key to Count Sheets Count Sheets Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type

Structure Types

Α	=	Amosite	F =	Fiber
An	-	Anthophyllite	B =	Bundle
C	=	Chrysotile	C =	Cluster
Cr	=	Crocidolite	M =	Matrix
T	_	Tramolita		

ND = no structures detected

= other structure associated with a matrix

NAM = Non Asbestos Mineral

XGB = partly obscured by a grid bar

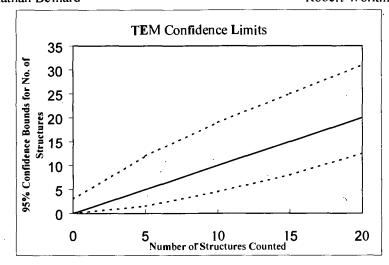
Sizing Conversion
1 length unit = 5 mm on screen = 0.278 micron

1.80 length units = 0.5 micron 18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr Nathan DelHierro Angela Heitger Jonathan Bemard Paul D. LoScalzo Mark Steiner Norberto Zimbleman Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Page 1 o	f
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Laboratory name:	RE
Instrument	JEOL 100 (N) S
Voltage (KV)	100 KV
Magnification	(20KX 10KX
Grid opening area (mrn2)	0.011
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Tyoe	

Client:	Park						
Sample Type (A=Air, D=Dust):	A						
Air volume (L) or dust area (cm2)	1106						
Date received by lab	(0/12/11						
Lab Job Number:	222360						
Lab Sample Number:	801108						

Analyzed by	JB
Analysis date	10/13/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	Att
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Pro	eps Oniy):
Fraction of primary litter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class				1 = yes, blanit = n		= no
			Primary	Total	Length	Width		Ampfilladie	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	614-1	ND												
	FU-1	νD				Pn	o A	90% into	nf	3-	Folo deb.	2'5	·	
	E4-1	M				Pu	oB.	10% inh	nf	30	7 % deb	75		·
	C4-1	ND		•					1					
3	614-1	ND		·				Bu	10	13/4				
	F4-1	ND										·		
	E4-1	M						/		· 				
					·					,				
	·													

Reservoirs Envirunmental, Inc. TEM Aspestos Structure Count

Laboratory name:	REI
instmment	JEOL 100 (N) S
Voltage (KV)	100 KV
Magnification	(20K)X 10KX
Grid opening area (mm2)	0.011
Scale: 1L =	0.28 urir
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client:	Park
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	100
Date received by lab	10/12/1
Lab Job Number	122360
Lab Sample Number	801109

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JB
Analysis data	(0/13/u
Method (D=Direct, l=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	Alt
Grid storage Ideation	Month Analyzed
Scope Alignment	Date Analyzed

Gri	ld. C	Grid Opening	Structure	No. of St	ructures	Dimer	nsions	Identification	Mineral Class	: •			1 = y	es, blank	= no
		aim Opening	Туре	Primary	Total	Length	Width	Idditimoation	Amphiböle		NAM	Sketch/Comments	Sketch	Photo	EDS
A		K3-6	MD.			·									_
		1+3-6	MD												
		63-6	ND				Por		Obein ha	lt	50/	debris			
		F3-6	ND		`.		Pro	15	4	/					
1	3	HZ-6	ND.				1		18.1	ال	3/11			·	
		62-6	MS				• •		770		/		,		
		F2-6	(W)							-			·		
						·								·	
	,														
			-						:	,	: .		•		

Reservoirs Environmental, Inc. TEM Aabestos Structure Couni

Laboratory name:	REI
Instrument	JEOL 100 (N) S
Voltage (KV)	100 KV
Magnification	(20K)X 10KX
Grid opening area (mm2)	0.011
Scale: IL =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	Roll
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust atea (cm2)	1106
Date received by lab	10 lals
Lab Job Number:	222360
Lab Samole Number:	801110

F-Factor Calculation (Indirect Preps Only):					
Fraction of primary filtar used					
Total Resuspension Volume (mi)					
Volume Applied to secondary filter (mi)					

Analyzed by	JB
Analysis date	10/13/11
Method (D=Direct, l=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

	Grid	Gild Opening	Structura	No. of Str	uctures	Dimer	nsions	Identification	Mineral Class				1 = y	es, blank	= no
L	`\		Туре	Primary	Total	Length	Width		Amphibale	С	NAM	Sketch/Comments	Sketch	Photo	EDS
	A	613-6	M		·										
		F3-6	W)				Pa	pA	870 % in	hus	4	5-7-60	chr.		
		E3-6	ΜÒ		· · ·		Pay	63	100% in	tine		5-76			
		C3-6	M						11						
. [13	FZ-1	ND						Rand 10	13/4				·	
		E2-4	ND				•		P.T.	7			•	·	
		EZ-1	ND					/		·					
											, .				
												-			

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Page	1	of	

Reservoirs	Environment	al, Inc.
TEM Asbes	tos Structure	Count

Laboratory name:	REI_
Instmment	JEOL 100 (N) S
Voltage (KV)	100 KV
Magnification	(20KX 10KX
Grid opening area (mm2)	0.011
Scale: IL =	0.28 um
Scale: 1D =	0.056 um
Primary filter araa (mm2)	385
Secondary Filter Area (mm2)	•
QA Tyoe	

Client :	PAR
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	1100
Data received by lab	10/12/1
Lab Job Number:	222360
Lab Sample Number	801111

F-Factor Calculation (Indirect Pre	os Only):	· · · · · · · · · · · · · · · · · · ·
Fraction of primary filter used	•	
Total Resuapenskm Volume (ml)		
Volume Applied to secondary filter (ml)		

Arialyzed by	JB
Analysis date	(0/13/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	, , , , , , , , , , , , , , , , , , ,
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scooe Alignment	Date Analyzed

Grid	Grid Opening	Structure	No. of St	mctures	Dimer	nsions	Identification	Mineral Class				1:=:y	es, blank	= no_
<u> </u>	Gira Opening	Туре	Primary	Total	Length	Width		Amphilable	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	H4-6	1/12				·								
	64-6	ΛMO				02		80 / nin	bus	<i>f</i> .	5-7% de	bris		
	F4-6	ND				Pr	10B	00 % in	Inf	- 5	-7 % de	อกร		
	F5-6	W		-	·					1				
B	H4-6	ND				:			B	10	13/4			
	64-6	ND							1		/ .	٠.		·
	F4-6	(N_												
														·
						·	_							

Analytical Procedures - AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber: is a structure having a minimum length greater than or equal to 0.5

micron with an aspect ratio of 5:1 or greater with substantially parallel

sides.

Bundle: is a structure composed of three or more fibers in parallel arrangement,

with each fiber closer than the diameter of one fiber.

Cluster: is a structure with fibers in random arrangements such that all fibers are

intermixed and no single fiber is isolated from the group.

Matrix: is a fiber or fibers with one end free and the other end embedded or

hidden by a particulate. The exposed fiber end must meet the fiber

definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

Area Analyzed, mm² = # GO counted x Average GO Area (mm)

Concentration, $s/cc = \frac{\text{\# Asbestos Structures}}{\text{\# GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2)}{\text{Average GO area (mm}^2)} \times \frac{\text{IL}}{\text{1000cc}}$

Filter loading, s/mm² = # Asbestos structures Area Analyzed (mm²)

GO = TEM grid opening



October 17, 2011

Laboratory Code:

RES

Subcontract Number:

NA

Laboratory Report: Project # / P.O. #

RES 222518-1 None Given

Project Description:

Rocky Mtn. Power 3rd West Sub Station

David Roskelley R & R Environmental 47 West 9000 South #2 Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 222518-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer Orr

President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number:

RES 222518-1

Client:

R & R Environmental

Client Project Number / P.O.: None Given

Client Project Description:

Rocky Mtn. Power 3rd West Sub Station

Date Samples Received:

October 14, 2011

Analysis Type: Turnaround:

TEM, AHERA

24 Hour

Date Samples Analyzed:

October 14, 2011

Client ID Number	Lab ID No	umber	Area Analyzed	Air Volume Sampled	Number of Asbestos Structures Detected	Analytical Sensitivity	Asbestos Concentration	Filter Loading	
			(mm²)	(L)		(s/cc)	(s/cc)	(s/mm²)	
3W-101311-S	EM	810490	0.1100	947	ND .	0.0037	BAS	BAS	
3W-101311-E	, EM	810491	0.1100	946	ND	0.00 3 7	BAS	BAS	
3W-101311-N	EM	81049 2	0.1100	947	ND	0.00 3 7	BAS	BAS	
3W-101311-W	EM	81049 3	0.1100	947	ND	0.00 3 7	BAS	BAS	

NA = Not Analyzed

Filter Material = Mixed Cellulose Ester

ND = None Detected

Filter Diameter = 25 mm

BAS = Below Analytical Sensitivity Average Grid Opening in mm² = 0.011

Effective Filter Area = 385 sq mm

DATA QA

Time

Date

Initials

REILAE RESERVOIRS ENVIRONMENTO, INC. 6801 Logen St. Danver, CO 80216 • Ph; 303 984-1996 • Fex 303-477-4276 • Tolt Free: 886 RESI-ENV

Pager : 804-608-2048 INVOICE TO: (IF DIFFERENT) CONTACT INFORMATION: Dave Roskelle y Euronmente Cell/pager: SD | 54/-1035 Tind Oats Caliverable Berell Adereu: Prefect Number and/or P.O. St Project Description/Location: Rocky Mith Power 3th West Sub Station days O remiro com ASBESTOS LABORATORY HOURS: Woekdays: 7am - Tpm REQUESTED ANALYSIS VALID MATRIX CODES LAB NOTES: RUSH (Same Day) X PRIORITY (tlext Day) STANDARD Ar = A Bulk • B (Rush PCM = 2hr, TEM = 6hr.) Paint = P Dust = D CHEMISTRY LABORATORY HOURS: Weekdays: Bam - Spm Soll = 8 Wipe a W Melal(s) / t)ust RUSH 24 hr. 3-6 Day Swab = SW F = Pood "Prier notification is RCRAS/Matals & Walding Drinking Water = OW | Wasta Water = WW Lang report, Point Count RUSH ___ S day ___10 day roundred for RIASH Fume Sean / TCLP O = Other lumaraunda.** ¥ 8 Organice 24 tir. ___ 3 day ___6 Day "ASTM E1792 approved wipe media only" MICROBIOLOGY LABORATORY HOURS: Weekdays: 9sm - 6pm E.coll O187:H7, Collforms, S.auraus 3-5 Dav 24 hr. 2 Day 48 Hr. ___3-5 Day Salmonella, Listeria, E.coll, APC, Y & M Mold RUSH __24 Hr __46 Hr __3 Day DRGANICS - METH E.cofi 0157:H7: **Turnaround times establish a laboratory priority, subject to laboratory volume and are nel guarantaed. Additional fees apply for alterhours, weekends and helidays,** Matrix Code Special instructions: (L) / Arrea EM Numbar (Leberator) Date Tims Use Only) Collected Collected Client sample ID number (Sample ID'a must be unique) hit/irms a/p 3W-101311-S 3w-101311-E 31w-1013hi - h1 4 3W-101311 - W 5 6 7 8 9 10 Number of samples racelved: (Additional samples shall be listed on attacted long form.) NOTB: 88 will enable incoming samples (search agon information) teceived suit will not be responsible for errors or omissions in calculations resulting from the insocuracy of original data. By signing client/company representative agrees that submission of the following samples for requested enables as inclosed on this Chain of Custody epsi constitute an assisting from the manufacture of NET 30 days, failure to comply with payment terms of NET 30 days, failure to comply with payment terms are required in a 1,5% monthly interest curcharge. Relinguished By: Datemme: Sample Condition: Sealed Intect Laboratory Use Only (Yes) No Yes / No Yes / No Temp. (F°) Received By: Results: Contact Phone Email Fá Date Time Inittate Contact Phone Email Fax Initials Date Time Contact

Contact

Phone Email Fax

Date

Time

Phone Email Fax

Attachment I

Key to Count Sheets
Count Sheets
Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type

Structure Types

A = Amosite	F = Fiber
An = Anthophyllite	B = Bundle
C = Chrysotile	C = Cluster
Cr = Crocidolite	M = Matrix
T = Tremolite	

ND = no structures detected

M = other structure associated with a matrix

NAM = Non Asbestos Mineral

XGB = partly obscured by a grid bar

Sizing Conversion

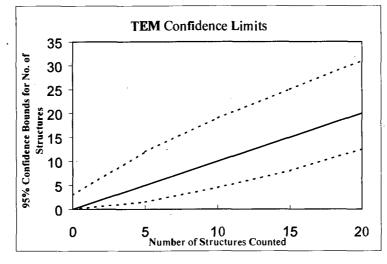
1 length unit = 5 mm on screen = 0.278 micron 1.80 length units = 0.5 micron

18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr Nathan DelHierro Angela Heitger Jonathan Bemard Paul D. LoScalzo Mark Steiner Norberto Zimbleman Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	Recensify Confrontatistics.
instrument	JEOL 100 CX N
Voltage (KV)	100 MV
Magnification	20X
Grid opening area (mm2)	0.011
Scale: 1L=	0.28 um
Scele: 10 =	0.056 um
Primaty filter area (mm2)	385
Secondary Filter Area (mm2)	N/A
QA Tyoe	Not OA

Client:	R&R Evironmental
Samole Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	947
Date received by lab	10/14/2011
Lab Job Number:	222518
Lab Sample Number:	810490

F-Factor Calculation (Indirect P	7/
Fraction of primary fliter used	<u></u>
Total Resuspension Volume (ml)	
Votume Applied to secondary filter	

Analyzed by	n.zimbetman
Analysis date	10/14/2011
Method (D=Oirect, l=Indirect,	
IA=Indirect ashed)	0
Counting rules	
(ISO, AHERA, ASTIN)	Ahera
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Client Sample ID Number 3W-1013n-4

Grid	Grid Opening	Structure			Dimensions		Identification	Mineral Class				1 = yes, blank = no		
Gild	Grid Opening	Туре	Primary	Total	Length	Width	1 1	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
4	£2-6	41												
	F3-3	لال												
	F3-1	भेषे					ŕ							
	E3-4	والع						-				·		
	E 3-1	لٰے											·	
	C3-	لاب			A -	60	1257	. 3-52	اورى	nev)				
B	B3-4	له م				. (
	=4/1	d d												
	=4-4	لهلې												
	74-1	গর			В	~	A-				,		•	

Reservoirs Environmentat, inc. TEM Asbestos Structure Count

Laboratory name:	fosner lahozati ik.
1nstrument	JEOL 100 CX N
Voltage (KV)	100 KV
Magnificatkin	20X
Grid opening area (mm2)	0.011
Scale: 1L =	D.28 um
Scale: 1D =	0.05 6 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	N/A
QA Type	Not OA

Client:	R&R Evironmental
Sample Type (A=Air, D=Oust):	Α
Air volume (L) or dust area (cm2)	946
Date received by lab	10/14/2011
Lab Job Number:	222518
Lab Sample Number:	81D491

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter	

Analyzed by	n.zimbelman
Analysis date	10/14/2011
Method (D=Oirect, I=Indirect,	
IA=Indirect; ashetl)	D
Counting rules	
(ISO, AHERA, ASTM)	Ahem
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Client Sample ID Number: SW-101311-E

Grid	Grid Opening	Structure	No. of St	ructures	Olntei	nsions	1dentification	Mineral Class				1 = y	es, blank	= no
0	Ond Opening	Туре	Primary	Total	Lenoth	Width		Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
Ą	B3 -\	NA												L
	13-4	ŊΔ												
	83-3	क्ष य									·			
	A3-6	หป												
	1-14	40					A: 8:	72617-	 - 3	كحا	abri)			
	44.1	الله												
ß	87-1	ال			,									
	<u>_4_4</u>	90										J		
	B4-9	۶Ld					,							
	E3-6	4)					~ £	A						(

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	Bearpaire Confrontacidates.
Instrument	JEOL 100 CX N
Voltaae (KV)	100 KV
Magnification	20X
Grid opening area (mm2)	0.011
Scale: 1L =	0.28 um
Scale: 1D =	0.0SS um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	N/A
QA Type	Not OA

	K& K
Client:	Evtronmental
Sample Type (A=Air, D=Dust):	Α
Air volume (L) or dust area (cm2)	947
Date received by lab	10/14/2011
Lab Job Number:	222518
Lab Sample Number:	810 49 2

F-Factor Calculation (Indirect Preps Only):						
Fraction of primary filter used						
Total Resuspension Volume (ml)						
Volume Applied to secondary filter (ml)						

Analyzed by	n.zimbelman
Analysis date	10/14/2011
Method (D=Direct, l=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	Ahera
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Client Sample 1D Number: SW-101311-N

Grid	Grid Opening	Structure	No. of St	ructures	Dime	nsions	Identification	Mineral Ciass				1 = y	es, blank	: = no
Gild	Ond Opening	Туре	Primary	Total	Length	Width	i de i i i i i i i i i i i i i i i i i i	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EOS
+	L5/	धव									·			
	K5-4	NY												
	K5-1	l h				C		· ·						
	e5-1	UU				tre	9-A:	70%=cot.	5-	10 /	JaBAI)			
B	44-1	h d						, /						
	64-4	क प												
	4-3-3	لدله												
	63-6	44												
	63-3	لالا												
	F3-4	الماع) * 2	1 · B ~	~ A						

Reservoira Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	Reading Conference station.
Instrument	JEOL 100 CX N
Voltage (SCV)	100 KV
Magnification	20X
Grid opening area (mm2)	0.011
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	N/A
OA Type	Not OA

Client,	R&R Eviroumental
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	947
Date received by lab	10/14/2011
Lab Job Numben	222518
Lab Sample Number:	810493

F-Factor Calculation (Indirect Preps O	nıy):
Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	n,zimbelman
Analysis date	10/14/2011
Method (D=Direct, i=Indirect,	
IA=Indirect, ashed)	D
Counting nules	
(ISO, AHERA, ASTM)	Ahera
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Client Sample ID Number; 3W-101311-W

Grid	Grid Opening	Structure	No. of Str	uctures	Dime	nsions	Identification	Mineral Class			·	1 = y	es, blank	= no
- 0110	Ond Oponing	Туре	Primary	Total	Length	Width		Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	Ed-6	ধর												
	E4-3	£ 4 8									,			
	£4-4	p.J												
	=4-4	শৌ												
	E3-3	र्ग वृ				A:	60/	st- 1-	3 %	عاهد ا	N. 20			
	£3-6	43												
В	F3-1	والم												
	F2-3	ধ্য												
	F2-4	لما												
	62-1	dd.				-4	~ #					·		

Analytical Procedures - AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber: is a structure having a minimum length greater than or equal to 0.5

micron with an aspect ratio of 5:1 or greater with substantially parallel

sides.

Bundle: is a structure composed of three or more fibers in parallel arrangement,

with each fiber closer than the diameter of one fiber.

Cluster: is a structure with fibers in random arrangements such that all fibers are

intermixed and no single fiber is isolated from the group.

Matrix: is a fiber or fibers with one end free and the other end embedded or

hidden by a particulate. The exposed fiber end must meet the fiber

definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

Area Analyzed, mm² = # GO counted x Average GO Area (mm)

Concentration, $s/cc = \frac{\# \text{ Asbestos Structures}}{\# \text{ GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2)}{\text{Average GO area (mm}^2)} \times \frac{1L}{1000cc}$

Filter loading, $s/mm^2 = \frac{\# \text{ Asbestos structures}}{\text{Area Analyzed (mm}^2)}$

GO = TEM grid opening

Due Date: 10

REILAB RESELVOITS Environmentol. Inc... 8801 Logan St. Danver, CO 80218 · Pit: 303 884-1889 · Fax 303-477-4278 · Tos Free: 388 RESI-ENV

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Number of samples received: (Additio	nal samples shall be liated on	attach	ed lor	g lbm	n.)								l	*~L					
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TRK# 8697 8473 2160

Attachment I

Key to Count Sheets Count Sheets Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type

Structure Types

A = Amosite	F = Fiber
An = Anthophyllite	B = Bundle
C = Chrysotile	C = Cluster
Cr = Crocidolite	M = Matrix
T = Tremolite	

ND = no structures detected

M = other structure associated with a matrix

NAM = Non Asbestos Mineral

XGB = partly obscured by a grid bar

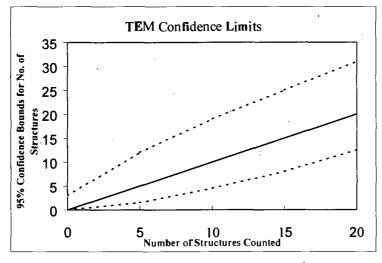
Sizing Conversion

1 length unit = 5 mm on screen = 0.278 micron 1.80 length units = 0.5 micron 18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr Nathan DelHierro Angela Heitger Jonathan Bemard Paul D. LoScalzo Mark Steiner Norberto Zimbleman Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	fearnairs Em Locandallas
Instrument	JEOL 100 CX N
Voltage (KV)	tao KV
Magnification	20X
GrM opening area (mm2)	0.011
Scale: 1L =	0,28 um
Scale: 10 =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	N/A
QA Type	tilot QA

IEM ASDESIOS STI	R&R
Client:	Evironmental
Sample Type (A=Air, D=Oust):	Α
Air volume (L) or dust area	
(cm2)	1050
Date received by lab	10/14/2011
Lab Job Number:	222520
Lab Sample Number:	810494

F-Factor Calculation (Indirect Pr	eps Only):
Frection of primery tiller used	·
Total Resuspension Volume (mi)	
Volume Applied to secondery filter (ml)	

Analyzed by	n.zimbelman
Analysis date	10/14/2011
Method (D=Direct, I=Indirect,	
IA=Indirect, ashed)	D_
Counting miles	
(ISO, AHERA, ASTM)	Ahera
GrM storage location	Month Analyzed
Scope Alignment	Date Analyzed

Client Sample ID Number 3W-101211-E

Grid	GrM Opening	Structure	No. of Str	uctures	Dime	nsions	Identification	Mineral Class				1 = y	es, blank	= no
		Туре	Primary	Total	Length	Width		Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
4	@l3	લાગ												
	F1-6	MJ												
	F2-{	ণ গ												
	62-1	धम												
	62-3	لاب												
	63-1	41												
	63-3	ধ্য			4	?	602 7	WTAST	4	24	das w.)			
B	#4-1	له له						1						
	H4-6	ध्रम								·				
	45-1	M			ğ	\	A							

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	Beserishin Erdronneshellinc.
Instrument	JEOL 100 CX N
Voltage (KV)	too KV
Magnification	20X
Grid opening area (mm2)	0.011
Scale: 1L=	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	N/A
QA Type	Not QA

I EM ASDESIOS SUR	R&R
Client:	Evironmental
Sample Type (A=Air, D=Dust):	A_
Air volume (L) or dust area (cm2)	1062
Date received by lab	10/14/2011
Lab Job Number:	222520
Lab Sample Number:	810495

F-Factor Calculation (Indirect Prep	s Only):
Fraction of primary filtor used	
Total Resuspension Volume (ml)	
Volume Applied to secondary litter (ml)	

Analyzed by	n.zimbelman
Analysis date	10/14/2011
Method (D≕Oirect, I=Indirect, IA=Indirect, ashed)	0
Counting rules (ISO, AHERA, ASTM)	Ahe <i>r</i> a
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Client Sample ID Numbers 3W-1012tt-5

Grid	Grid Opening	Structure	No. of St	ructures	Dime	Dimensions Identificati		Mineral Class				1 = yes, blank = no		= no
•		Туре	Primary	Total	Length	Width	racing industri	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
A	44-6	وبر												
	K4-3	ųÚ												
	K4_6	الدم												
	K511	79							1					
	H5-1	ध्य				† :.	~60 >=	est- t	3 /<	1) a.B.	د پر			
В	65.6	선 ŋ						•						
	65-3	a d	W.											
	F5-1	ρŋ												
	E5-(બગ્												
	L5-(阳				7	· A							

Reservoirs Environmental, Inc. TEM Asbestos Structure Count

Laboratory name:	Beand's Colonestation
Instrument	JEOL 100 CX N
Voltage (KV)	100 KV
Magnification	20X
Grid opening area (mm2)	0.011
Scale: 1L =	0. 28 um
Scale: 1D =	0.056 um
Primary fitter area (mm2)	3 6 5
Secondary Filter Area (mm2)	N/A
QA Type	Not QA

TEM ASDESIOS SEE	RAR			
Client:	Evironmental			
Sample Type (A=Air, D=Dust):	Α			
Air volume (L) or dust area (cm2)	1042			
Date received by lab	10/14/2011			
Lab Job Number:	222520			
Lab Sample Number:	810498			

F-Factor Calculation (Indirect Preps Oni	<u>ly):</u>
Fraction oi primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	n.zimbelman
Analysis date	10/14/2011
Method (D=Direct, I=IndirecL	
IA=Indirect, ashed)	D
Counting rules	
(ISO, AHERA, ASTM)	Ahera
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Client Sample ID Numbers SW-10121t-N

Grid	Grid Opening	Structure	No. of St	ructures	Dimensions		Identification Mineral Class		Mineral Class			1 = yes, blank = no		
		Туре	Primary	Total	Length	Width	TO THE HEAD OF THE PARTY OF THE	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
4	=4-1	b त्												
	E3-3	त न												
	E3-6	P												
	F3-3	প্র												
	F3-6	kt.n		•		:			·					
	(e3 - 23	धव				<i>\frac{4}{2}</i>	~90>	コムナー 3	152	ر کا تدا	p w.l.			
В	64/1	ধ 0									7			
	F4-1	N												
	至4-4	7.13												
	E4-6	49				17	~ 4							

Reservoirs	Environmental, Inc.
TEII Asbes	tos Structure Count

Laboratory name:	Hancredra Amiconotechallic.
Instrument	JEOL 100 CX N
Voltage (KV)	teo KV
Magnification	20X
Grid opening area (mm2)	0.011
Scale: 1L =	0.28 um
Scale: 10 =	0.056 um
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	N/A
QA Type	Not QA

	R&R			
Client:	Evironmental			
Sample Type (A=Air, D=Dust):	A			
Air volume (L) or dust area (cm2)	1054			
Date received by lab	10/14/2011			
Lab Job Number:	222520			
Lab Sample Number:	810497			

F-Factor Calculation (Indirect Pro	
Fraction of primary filter used	
7otal Resuspension Volume (ml)	
Volume Applied to secondary lilter	

Analyzed by	n.zimbelman			
Analysis date	10/14/2011			
Method (D=Direct, l=Indirect,				
IA=IndirecL ashed)	D_			
Counting rules				
(ISO, AHERA, ASTM)	Ahera			
Grid storage location	Month Analyzed			
Scope Alignment`	Date Analyzed			

Client Sample 1D Number 3W-101211-W

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		- Identification	Mineral Class				1 = yes, blank = no		
			Primary	Total	Length	Widtr	Taeriurioador	Amphibole	С	NAM	Sketch/Comments	Sketch	Photo	EDS
4	Z5-3	치기												
	F5-3	64				,								
	EG-4	현직												
	E.G. 4	ধ দ্											•	
	E6-1	धव					4: (5 YZNT	3-	ہے ک	Jasus			
В	E4-4	८ १												
	E4-1	و بع												
	E3-3	አ ገ									ŕ			
	F3-1	60												
	63-1	بالم					b:	43 Y= EST-	3-5	ماه سے	Bw.)			

Analytical Procedures - AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

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micron with an aspect ratio of 5:1 or greater with substantially parallel

sides.

Bundle: is a structure composed of three or more fibers in parallel arrangement,

with each fiber closer than the diameter of one fiber.

Cluster: is a structure with fibers in random arrangements such that all fibers are

intermixed and no single fiber is isolated from the group.

Matrix: is a fiber or fibers with one end free and the other end embedded or

hidden by a particulate. The exposed fiber end must meet the fiber

definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

Area Analyzed, mm² = # GO counted x Average GO Area (mm)

Concentration, s/cc = $\frac{\text{\# Asbestos Structures}}{\text{\# GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2)}{\text{Average GO area (mm}^2)} \times \frac{1L}{1000cc}$

Filter loading, s/mm² = # Asbestos structures Area Analyzed (mm²)

GO = TEM grid opening